

### **Abstract of the Disclosure**

5 The invention relates to an arrangement for sensing ambient conditions in electric equipment. These conditions may include verification of the user, the location of the equipment and various properties of the environment. The invention is preferably applied in mobile terminals. One idea of the invention is to provide a sensor arrangement with a substrate (663) that forms at least part of a sensor, and also serves as a substrate for other sensors (695-698). The  
10 substrate is preferably flexible so that it can be formed in a shape which is follows the shape of the device cover. The invention also describes a way to create two- or three-dimensional electrode structures that can be used to optimize the performance of the sensor. When the surface structure is designed to follow the shape of a finger, a very small pressure is required when sliding  
15 the finger along the sensor surface. This way the use of the sensor is ergonomic and the measurement is made very reliable.